2006 STANDARD PLANS DIGEST

5/1/06

The May 2006 edition of the California Department of Transportation Standard Plans is based on U.S. Customary units. The Department is in the process of reverting back to U.S. Customary units as its base units. The last edition of the Department's Standard Plans to be published in U.S. Customary units only was the July 1992 edition.

The May 2006 edition of the Department's Standard Plans is to be used in conjunction with the May 2006 edition of the Department's Standard Specifications.

The May 2006 edition of the Department's Standard Plans was primarily developed by using the July 2004 (metric) edition of the Department's Standard Plans and converting the units from metric to U.S Customary; but there were also other changes made to some plan sheets.

This digest only identifies the more significant changes made to the May 2006 Standard Plans, other than conversions from metric units to U.S. Customary units, and is not comprehensive. It will be necessary to view all the plans carefully.

The digest is arranged in the same order as the series of plans that appear in the hardcopy book. The order is: "A" Series, "P" Series, "C" Series, "D" Series, "H" Series, "T" Series, "B" Series, "RS" Series, "S" Series, and "ES" Series.

STANDARD PLAN	CHANGES
"A" Series	
A77 and A78 Series	Notched plastic blocks are to be recycled.
A77C3	• In Detail A, the distance from the back of post to hinge point is 2 ft min desirable. • In Detail C, the typical dimension of the retaining wall is 11½". • In Note 1, sizes of posts and blocks and types of blocks are specified for steel line post installations in Details A, B, C & D.
A77D1 and A77D2	These plan sheets have been deleted. Information from these sheets will be included in the next "manual change transmittal" for the Highway Design Manual.
A77G Series	W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'2" notched wood block or notched recycled plastic block may be used in place of the 10" x 10" x 8'0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail."
A77J1	• End Cap Type TC is to be used in Connection Detail AA. • In Connection Detail BB, dimension from FG to bolt hole is 21⅝". • In Connection Detail AA, dimension from FG to upper bolt hole in Thrie beam rail element is 25 $^{13}/_{16}$".
A77J2	• End Cap (Type TC) is to be used in Connection Detail AA and Connection Detail CC. • In Connection Detail AA and Connection Detail CC, the dimension from FG to upper bolt hole in Thrie beam rail element is 25 $^{13}/_{16}$". • Note 8 was added, which refers to Standard Plan A77J4 for details of End Cap (Type TC). • Note 9 was added, which refers to Standard Plan A77J4 for details of depth dimension for straight metal box spacer.
A77J3	• In Connection Detail DD, the dimension from FG to upper bolt hole in Thrie beam

	rail element is 25 $^{13}/_{16}$. • In Connection Detail EE, the dimension from FG to middle bolt hole is 21⅝". • In the anchor block for transition railing connection, the dimension from roadway surface to the lower bolt hole is 18 $^{3}/_{16}$". The dimension from the roadway surface to the upper bolt hole is 25 $^{13}/_{16}$".
A77J4	• In the Elevation view, the reference to Note 3 is removed from Post No. T2. • In Detail D, the dimension from FG to the upper bolt hole in Thrie beam rail element is 25 $^{13}/_{16}$". • Note 7 was added, which states that metal box spacers vary from 5⅛" to 1½" based on width of concrete railing or wall. If the space between the backside of concrete railing or wall is less than 1½", metal plates similar to Plate "A" are to be used. • Note 8 was added, which states that if the width of the concrete railing or wall is greater than 17⅛", wood blocks are to be used to fill the space created between the backside of Posts No. 4 through 7 and the rear Thrie beam element. The wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front Thrie beam element and the rear Thrie beam element is to match the width of the concrete railing or wall.
A77K1	• In Connection Detail GG, the dimension from bottom of sidewalk to bolt hole is 21⅝". • In Connection Detail FF, the dimension from the top of sidewalk to the upper bolt hole in Thrie beam rail element is 17 $^{13}/_{16}$". • Note 7 was added, which refers to Standard Plan A77J4 for details of End Cap (Type TC). • Note 8 was added, which refers to Standard Plan A77J4 for details of depth dimension for straight metal box spacer.
A77K2	• For Connection Detail HH and Connection Detail FF, the dimension from top of sidewalk to the upper bolt hole in Thrie beam rail element is 17 $^{13}/_{16}$". • Note 7 was added, which refers to Standard Plan A77J4 for details of End Cap (Type TC). • Note 8 was added, which refers to Standard Plan A77J4 for details of depth dimension for straight metal box spacer.
A78B	In the Double Thrie Beam Barrier Saw Tooth Installation, the dimension from ground line or shoulder surfacing under rail element to the upper bolt hole is 2'-1 $^{13}/_{16}$".
A78C1	End Cap (Type TA) was omitted.
A78D1	The dimension from ground line or shoulder surfacing under rail element to the upper bolt hole is 2'-1 $^{13}/_{16}$".
A78F1	• In the Elevation view, the distance from FG to the upper bolt hole in Thrie beam rail element is 2'-1 $^{13}/_{16}$". • Note 4 was added, which refers to Standard Plan A78C1 for details of End Cap (Type TC). • Note 5 was added, which refers to Standard Plan A78K for details of depth dimension for straight metal box spacer.
A78F2	• In the Elevation view, the dimension from FG to the upper bolt hole in Thrie beam rail element is 2'-1 $^{13}/_{16}$". • Note 3 was revised to refer to Standard Plan A78C1 for details of End Cap (Type TC).

	• Note 4 was revised to refer to Standard Plan A78J for details of depth dimension for straight metal box spacer.
A78G	• In the Elevation view of the anchor block for transition railing connection, the dimension from roadway surface to the lower bolt hole is 1'-6 $^{3}/_{16}$". The dimension from the roadway surface to the upper bolt hole is 2'-1 $^{13}/_{16}$". • Note 3 was revised to refer to Standard Plan A78C1 for details of End Cap (Type TC).
A78H	Note 6 was added which states that the 15:1 or flatter flare is measured off of the edge of traveled way.
A78I	In Section A-A, the dimension from ground line or shoulder surfacing to the upper bolt hole is 2'-1 $^{13}/_{16}$".
A78J	• In Detail D, the dimension from FG to the upper bolt hole is 2'-1 $^{13}/_{16}$". The dimension from FG to the lower bolt hole is 1'-6 $^{3}/_{16}$" • Note 6 was added, which states that metal box spacers vary from 5⅛" to 1½" based on width of concrete railing or wall. If the space between the backside of concrete railing or wall is less than 1½", metal plates similar to Plate "A" are to be used. • Note 7 was added, which states that if the width of the concrete railing or wall is greater than 17⅛", wood blocks are to be used to fill the space created between the backside of Posts No. 4 through 7 and the rear Thrie beam element. The wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front Thrie beam element and the rear Thrie beam element is to match the width of the concrete railing or wall. • Note 8 was added, which refers to Standard Plan A78C1 for details of End Cap (Type TC).
A78K	• In Detail D, the dimension from FG to the upper bolt hole is 2'-1 $^{13}/_{16}$". The dimension to the lower bolt hole is 1'-6 $^{3}/_{16}$" • Note 6 was added, which states that metal box spacers vary from 5⅛" to 1½" based on width of concrete railing or wall. If the space between the backside of concrete railing or wall is less than 1½", metal plates similar to Plate "A" are to be used. • Note 7 was added, which states that if the width of the concrete railing or wall is greater than 17⅛", wood blocks are to be used to fill the space created between the backside of Posts No. 4 through 7 and the rear Thrie beam element. The wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front Thrie beam element and the rear Thrie beam element is to match the width of the concrete railing or wall. • Note 8 was added, which refers to Standard Plan A78C1 for details of End Cap (Type TC).
A81A, A81B	• Approach speeds have been normalized to 60 mph and 45 mph after units conversions. • Note 8 was added to indicate that approach speeds conform to NCHRP Report criteria.
A81C	• Approach speeds have been normalized to 60 mph and 45 mph after units conversions. • Note 9 was added to indicate that approach speeds conform to NCHRP Report criteria.
A88A	In Detail B, "Typical One-Ramp Corner Installation," the 2 feet straight curb was revised to apply only to the flared side of curb ramp.

"P" Series – "GENERAL"	Updated terminology to current pavement terms
P-2	Added details for concrete shoulders with widened lanes
P-3	Added new sheet for reconstructing shoulders next to non-doweled PCC pavement
P-5	Deleted Sheet
P-7	Removed joint seal detail (moved to Sheet P-20)
P-8	New standard plan for individual slab replacement
P-18	Updated Lane/Shoulder addition cases. Added case for interior lane replacement. Clarified which details apply to jointed plain concrete pavement, continuously reinforced concrete pavement or both.
P-20	Add joint detail for joint seal retrofit (from Sheet P-7)
P-33	New standard plan for joint spacing and concrete width for concrete pvmt lane drops.
P-35	Revised reinforcement details
P-45	Clarified which details apply to jointed plain concrete pavement, continuously reinforced concrete pavement or both.
P-70	Clarified notes to address notched wedges between lanes and shoulders.
"C" Series – "GENERAL"	Other than conversions from metric units to U.S. Customary units, no significant changes made to the "C" Series plans.
"D" Series – "GENERAL"	Other than conversions from metric units to U.S. Customary units, no significant changes made to the "D" Series plans.
"H" Series –	
H9	The pipe anchor Type II has been added to this plan.
"T" Series – "GENERAL"	Other than conversions from metric units to U.S. Customary units, no significant changes made to the "T" Series plans.
"B" Series –	
B15-1 through B15-8 and B15-15	The lateral earth pressure coefficients (Kp and Ka) were updated based on the log spiral values from the new Trenching and Shoring Program.
"RS" Series – "GENERAL"	Other than conversions from metric units to U.S. Customary units, no significant changes made to the "RS" Series plans.
"S" Series –	
S60 thru S73	These sheets have been deleted. Box Beam Closed Truss are no longer used.
"ES" Series – "GENERAL"	
ES-1A	Under the heading of "Abbreviations and Equipment Designations" more acronyms have been added and some original acronyms have been redefined. Acronyms CEC and RIS are deleted. In "Standard Notes", in Note IS, State-furnished is deleted and in Note SF, the second sentence is deleted.
ES-1B	Under the heading "Conduit" the raiser symbol is solid. Under the heading "Signal Equipment" the Type 15TS has been added. Deletion of the "Y" for the 15-FBS in the symbol and definition of the symbol to include the sign. Rearranging of word descriptions has been performed. Note 1 has been revised.

ES-1C	Under the heading "Miscellaneous Equipment" the detection device symbol is added. The heading "Service Equipment Enclosure Legend" has been revise to read " Wiring Diagram Legend ". Under the heading "Wiring Diagram Legend" the definition for "N" and "G" has been expanded, the contactor coil and the enclosure bond have been revised, and the circuit breaker and receptacle symbols have been added.
ES-2A	Type SCE-2 Service has been revised to have one enclosure for the dual services.
ES-2B	In the "Type II-B Service Equipment Enclosure", in "Front View" (less covers), the Bond Jumper is the Main Bonding Jumper and the Grounding Bus is the Ground Bus.
ES-2C	In Note 4, Type III-A is revised to Type III and the second sentence is revised to eliminate the lower panel since is manufactured in one panel. In Note 8, letter "d" is added. In Note 9, the second sentence is revised. Note 12 is revise to include options to the Contractor for the wiring diagram.
ES-2D	In the "Type III-AF Service Equipment Enclosure (Typical)", in the "Front View", a nameplate has been added, the barrier type terminal block has been deleted, and the landing lugs are shown on the utility area. In the "120/240 V Service Wiring Diagram (Typical)", the grounding electrode conductor is connected to the Ground Bus, and the contactor coil, the enclosure bond, and the photoelectric unit have been modified. Note 8 is deleted from under "Base For Type III-A Service Equipment Enclosure".
ES-2E	In the "Type III-BF Service Equipment Enclosure with Provisions for One 100 A Meter (Typical)", in the "Front View", a nameplate has been added and the reading cover has been modified; in the "Side View" and "Front View", the barrier type terminal block has been deleted; and, the "Side View", the landing lugs are shown on the utility area and the removable dead front panel and meter socket have been modified. In the "120/240 V Service Wiring Diagram (Typical)", the grounding electrode conductor is connected to the Ground Bus, and the contactor coil, the enclosure bond, and the photoelectric unit have been modified. Note 8 is deleted from under "Base For Type III-B Service Equipment Enclosure".
ES-2F	In the "Type III-CF Service Equipment Enclosure with Provisions for Two 100 A Meters (Typical)", in the "Front View", nameplates have been added and the reading covers have been modified; in the "Side View", the barrier type terminal block has been deleted; and, the landing lugs are labeled on the utility area. In the "120/240 V Service Wiring Diagram (Typical)", the grounding electrode conductor is connected to the Ground Bus, and the contactor coil, the enclosure bond, and the photoelectric unit have been modified. Note 8 is deleted from under "Base For Type III-C Service Equipment Enclosure". Under "Foundations Details", a note for the width of the foundation is referenced.
ES-2G	In the "Type III-DF Service Equipment Enclosure with Provisions for One 100 A Meter (Typical)", in the "Front View", nameplate has been added and the reading cover has been modified; in the "Side View" and "Front View", the barrier type terminal block has been deleted; and, in the " Side View ", the landing lugs are shown on the utility area and the removable dead front panel and meter socket have been modified. In the "277/480 V Service Wiring Diagram (Typical)", the grounding electrode conductor is connected to the Ground Bus, and the contactor coil, the enclosure bond, and the photoelectric unit have been modified and the transformer and contactor wiring are modified. Notes 10, 11, 12 and 13 are added. Item 23 on the table is revised from 2PNO to 3PNO.
ES-3B	The title for the "Wiring Diagram Flashing Beacon Control Assembly" has change to " Wiring Diagram LED Flashing Beacon Control Assembly" and the RIS has been deleted

	from the wiring.
ES-3C	Note 19, second sentence is revised. Conduit area in "Foundation Details" is revised to 8"X15"
ES-3D	In the "Termination Cabinet Notes", the Note 3 has been deleted. In the "Front View", the junction box is shown as one enclosure.
ES-3E	In the "Wiring Diagram", the thermostatically control switch is revised. In the "Side View" and "Front View", the PCC pad has been eliminated.
ES-3F	In the "Wiring Diagram", the thermostatically control switch is revised. In the "Top View", "Front View", and "Side View", the receptacles, fuse, circuit breaker, and thermostat dial are shown in one enclosure. In the "Foundation Details", the PCC pad has been eliminated.
ES-3G	In the "Backboard A", "Backboard B", and "Backboard C", the plywood is revised to read ACX. The "Metal Box Detail" has been deleted.
ES-3H	In the "Wiring Diagram", the on/off switch is revised. Note 1 is revised.
ES-5A	Minor edit to Note 2.
ES-5C	Gasket is shown on the "Pedestrian Push Buttons" details. The pull box under the "Magnetic Vehicle Detector Installation Details", "Elevation" is turned sideways.
ES-5D	A minor edit to note a. and a note "Saw slot for loop wire" under "Section A-A" of the "Typical Loop Lead-In Detail at Pavement Joint" is added. Title for "Detector Handhole Details" is revised. Notes for "Detector Handhole Details" are revised and screws have been added to secured the lid. Reference to pull box and to Notes 1, 2, 4 and 5 are added to the "Curb Termination Details". Saw slot for loop wire detail under "Section C-C" is revised.
ES-6A	Note "High Strength Cap Screws" is deleted. Note 2 is revised. The "Type 15 and Type 21 Barrier Rail Mounted" luminaires are combined into one drawing detail. Tables for the Type 15 and Type 21 have been revised.
ES-6C	Sheet is deleted.
ES-6D	Note "High Strength Cap Screws" is deleted. The titles of the details and the tables have been revised.
ES-6E	Note "High Strength Cap Screws" is deleted.
ES-6G	Note "High Strength Cap Screws" is deleted.
ES-6I	The base plate detail "Plan" has a range in the bolt circle (BC).
ES-6K	Note "High Strength Cap Screws" is deleted.
ES-7A	A weather-proof cap required was added to the "Pedestrian Push Button Post," "Elevation " detail. Reference note on the table has been revised.
ES-7B	The thickness of the poles have been revised.

ES-7C	Note "High Strength Cap Screws" is deleted. The three tables for Case 1 Signal Standards have been revised. The wind velocity design has been upgraded to 100 mph. The pedestrian height to the bottom of the pipe connections. A Type 16-1-100 Signal Standard has been added to the details and tables.
ES-7D	Note "High Strength Cap Screws" is deleted. The three tables for Case 2 Signal Standards have been revised. The wind velocity design has been upgraded to 100 mph. The pedestrian height to the bottom of the pipe connections. A Type 16-2-100 Signal Standard has been added to the details and tables.
ES-7E	Note "High Strength Cap Screws" is deleted. The three tables for Case 3 Signal Standards have been revised. The wind velocity design has been upgraded to 100 mph. The pedestrian height to the bottom of the pipe connections. A Type 16-3-100 Signal Standard has been added to the details and tables.
ES-7F	Note "High Strength Cap Screws" is deleted. The three tables for Case 4 Signal Standards have been revised. The wind velocity design has been upgraded to 100 mph. The pedestrian height to the bottom of the pipe connections.
ES-7G	Note "High Strength Cap Screws" is deleted. The three tables for Case 5 Signal Standards have been revised. The wind velocity design has been upgraded to 100 mph. The pedestrian height to the bottom of the pipe connections. The thickness of the alternative section for the Type 29-5-100 and Type 29A-5-100 has change to 0.1793".
ES-7H	Note "High Strength Cap Screws" is deleted. The three tables for Case 5 Signal Standards have been revised. The wind velocity design has been upgraded to 100 mph. The pedestrian height to the bottom of the pipe connections. An alternative section for the Type 61-5-100 and Type 61A-5-100 has added to the pole..
ES-7I	Note "High Strength Cap Screws" is deleted.
ES-7J	Note "High Strength Cap Screws" is deleted. The word "Incandescent" has been deleted from the details for the flashing beacons. The height of the FBCA is revised to 5'-6".
ES-7K	Title of the sheet has changed. The height of the FBCA is revised to 5'-6". The word "Incandescent" has been deleted from the details for the Type 9A and 9B flashing beacons. Minor modifications to the "Type 9" detail.
ES-7L	Title of the sheet has changed. The word "Incandescent" has been deleted from "Sign Lighting Fixtures Types 9A and 9B" details for the flashing beacons. Titles of the details are revised for theType9, Type 9A and Type 9B.
ES-7M	The identification Number designation has changed to reflect 100 mph wind loading.
ES-7P	Type I and Type II barricades have been revised with an extra chain and bar respectably.
ES-8	Tables for the pull boxes have been corrected. The note "Top flush with finished grade" has been revised for the "Section B-B". Minor edit to Note 8.
ES-9B	Note 5 has been eliminated. "Detail X" and "Detail XY" have been revised.
ES-9D	Minor edits to Note 7.

ES-11	Revision to the Table for Standard Type. Note in parenthesis for "Foundations in Sidewalks, Median and Island Areas" now reads 7' instead of 6'-8".
ES-13A	For "Type C Splice", "Type S Splice", "Type T Splice", and "Type ST Splice", the electrical filler compound is deleted.
ES-13B	The "Luminaire Ballast Fusing" table is revised, multiple to multiple transformer heading is revised, and now table includes 1000 W HPS lamp ballast.
ES-14A	Title of sheet includes the LED.
ES-14B	Title of sheet includes the LED. Minor changes to the wiring diagram, The DIM Test and SIGN Test are shown as part of the single enclosure, and RIS is deleted.
ES-14C	On the "Elevation", the height of the FBCA is revised to 5'-6".
ES-15B	The ballast rating shown on the "Section – Lighting Fixture" has been revised. The old Note 1 has been deleted, old Note 7 has been revised and all of the notes have been renumbered.
ES-15C	The height of the NEMA 3R Enclosure is revised to 5'-6" in the "Typical Sign Illumination Equipment Installation for Overhead Signs Round Post". The "Typical Sign Illumination Equipment Installation for Overhead Signs Box Beam Post" has been deleted.
ES-15D	Note 3 has been revised to include Type SC3A. The Contactor coil and test switch symbols for the "Type LC2 Control" and "Type LC3 Control" details are revised. Detail for "Type SC3 Control" is revised for 240 V operation and to include a test switch.
ES-16A	Note "High Strength Cap Screws" is deleted. Wind load is revised for 100 mph. Conduit is shown on the foundation detail.
ES-16B	Note "High Strength Cap Screws" is deleted. Wind load is revised for 100 mph.
ES-16C	Table heading for the table is revised to read "Pole" instead of "Post". The title of the sheet is revised.